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NATURÆ VERITAS

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BY

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Whatsoever thy hand findeth to do, do it with thy might.
ECCLESIASTES ix. 10.

Follow Nature.—THE STOICS.

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TO

MRS. H. MARSHALL WARD

I DEDICATE THIS LITTLE BOOK

STELLAR VISITS.

In the following Poem I have related certain things which, in a temporary absence from this Earth, I received from a Being who, having completed the changes of existence, had attained to a knowledge of the Universe far transcending the capacity of Man, and of the numerous Forms of Intelligence holding nearly the same position in the scale of general development.

From the nature of the case, it was impossible for the Aldebaran Spirit to reveal to me very much from the limitless store of his own knowledge; for, had he done so, nearly the whole of his speech had been

utterly unintelligible to me. Generally speaking, he kept within the field of my possible experience—which, like everything else, was well known to him; but here and there my obstinate references to things somewhat beyond my capacity compelled him to make use of language which I must now simply accept as oracular.

While, however, I have reproduced, as well as I could, the revelations of the Aldebaran Spirit, I have omitted to mention that, in the course of this journey through space, I had interviews with some other Beings much lower in the scale—some of them scarcely, if at all, superior to myself in either knowledge or capacity.

Of this latter sort was an inhabitant of one of the worlds circulating round the star Al Fard. A little conversation sufficed to show that I was dealing with a Being pretty much on a level with myself as regards

intelligence, although his frame differed very much in appearance from mine, and possessed several organs the functions of which I could not guess, but which were evidently intended for perceptions quite foreign to my experience. The main purpose for which I undertook this journey was to ascertain, by an extensive examination of the Universe, the truth or falsehood of the Principle of the Dissipation of Energy—a principle which seemed to be forced upon me by my experience in the Solar System, or (to be more accurate) by the knowledge of Natural Processes which I had gathered on the Earth. Of the Principle of the Conservation of Energy I had no doubt; but the Principle of Dissipation, which asserts that all forms of Energy in the Universe have an inveterate tendency to run down an inclined plane, as it were, and lose themselves in Heat of uniform temperature, was one to which I had the strongest aversion, because

it leads to the result that the whole Visible Universe must ultimately be reduced to one huge useless inert mass of uniform temperature, in which no life is possible—if, indeed, this Visible Universe itself does not then, by some strange process, utterly disappear and become absorbed into the Invisible Universe. The conclusion, taken in either way, was repugnant to me, and moreover did not seem to be based on a sound principle. It was, therefore, a matter of extreme importance to ascertain how far I was justified in elevating into "Laws" for the whole Universe the results of experience gathered, though it were by careful and apparently exhaustive investigation, in that particular part of it which was well within my reach.

Being, therefore, extremely anxious to gain some new information on this subject, I lost no time in explaining my views to the Al Fardian and informing

him of my great concern for the future deplorable state of the Visible Universe.

"Visible to whom, to what?" said he; "the term conveys very little idea to a logical mind, and I must, indeed, confess to a genuine difficulty in understanding what you mean. For that which is 'visible' to you may not be so to me; and even if I make your language more precise, and alter your word 'visible' to 'perceptible in any way,' the same difficulty remains, for the extent to which the Universe is perceptible will evidently depend on the extent to which you are endowed with strength and variety of perception."

"Well," said I, somewhat disconcerted by this objection, "I mean the Universe of *gross matter*. One of our early philosophers taught us that Man is *πάντων μέτρον*—the measure of all things—and to that comfortable dogma we have never ceased to adhere. Now we find that all Energy 'fritters down' to useless

Heat; and from this it follows at once that all the millions of stars in the Visible Universe, after having swallowed up their planets and collided with each other in pairs, will form in one vast aggregate of all existing matter, a huge useless inert mass of absolutely uniform temperature, in which no life is possible."

"It is very strange," said he, "that you should entertain such an idea of the nature of Heat; for with us Heat is about the most eminently transformable kind of Energy—insomuch that most of our efforts are directed towards preventing it from passing ultimately into Moneia—a form into which all Energy has an incurable tendency to pass. Hence we find a very great difficulty in the proper cooking of food, and machines of the utmost ingenuity have been constructed with this object. For Moneia has the effect of completely destroying the flavour of food and rendering it unfit for consumption. It did not,

however, occur to us that all Energy throughout the Universe could remain in the form of Moneia."

"We base our conclusion," said I, "on the Second Law of Thermodynamics, which is as follows:—

"'*It is impossible by means of inanimate material agency to derive mechanical effect from any portion of matter by cooling it below the temperature of the coldest of the surrounding objects.*'

"We had almost enunciated a similar law with regard to Moneia," said he; "but I observe in your language a reprehensible tendency to the use of vague expressions which show a certain want of metaphysical insight. What do you mean by 'inanimate—material—agency'? We feel metaphysical difficulties ourselves; but we endeavour, even in our scientific propositions, to reduce them to a minimum number. The dogma which nearly obtained favour with us is this:—

"'*It is impossible by any means which does not within itself contain some form of Energy to derive mechanical effect from any portion of matter by reducing its Moneia potential below that of every surrounding portion of matter of identical composition.*'

"If the last part of this proposition erred, it erred on the side of caution; but the whole was abandoned as a Law of Nature, because we could not be sure that the Universe would always supply, between the two portions of matter, means which were wholly devoid of Energy in every form; and if it did not, we could not say what intermediate transformations and retransformations might occur."

"But I suppose," said I, "that you find the sum-total of Energy—taking account of all its forms, Actual and Possible—to be constant, as we do."

"Well," said he, "we have suspected some such law; but the difficulties of verifying it are almost

insuperable, owing to the extreme ease with which it passes into a multitude of forms at the same time. We should, however, have no difficulty in assenting to your proposition that the sum of the Actual and the Possible in the Universe is constant. There may be a definite quantitative equivalence between a certain form, A, of Energy and another form, B—conceivably reproducible in the inverse order; and if there is, the fact is simply what you call the Conservation of Energy. But if you attach any wider meaning to your principle, it must either be a generalisation from your obviously very limited experience of the forms of Energy, or else the identical proposition that the sum of the Actual and the Possible is constant. However, the practical value of such a principle is not so great with us as it is in your world, where forms of Energy are evidently not very numerous."

"Then," said I, "you have refused to enunciate

the doctrine of the Dissipation of Energy into Moneia of uniform potential?"

"We have," said he, "although it was persistently preached. The belief which is beginning to find favour with us is the doctrine of the Resurrection of Energy; for we cannot believe that all remains in Moneia."

After some further conversation, in the course of which I learned that the Beings on his sphere regarded the whole Universe as a vast machine constructed for their special want — namely, the reconversion of Moneia and its restoration to them in useful forms— I bade him adieu, in the hope of meeting elsewhere a Being of more exalted views.

It must indeed have been an inconceivable velocity which took me at once into the neighbourhood of the beautiful pair of double stars known as Beta Cygni— one of them an overpowering blue, the other of a

bright golden colour. This system I had determined to visit, inasmuch as I felt extremely curious to know whether any planets could exist in it or not. The conditions seemed to be altogether unfavourable to the existence of such planets, except in very close proximity to each of the Suns, because the motions of any others would be so excessively disturbed by the opposing attractions of these huge bodies as to render any very regular state of affairs impossible. Hence, unless regularity were of no importance to their inhabitants, no life, "such as we know it," could exist on such worlds. Judge of my astonishment, therefore, to find each of these Stars with his attendant set of planets!

A short conversation which I had with an inhabitant of one of the worlds explained the mystery. It appears that no planet of either Star completes a revolution round him, but oscillates in a portion of a curve.

The Being with whom I now conversed told me that his planet performed its oscillation in a path whose mean figure is that of a semi-ellipse between one extremity of the minor axis and the other. This strange motion is due to the fact that each planet experiences an attractive force from its own Sun and a repulsive force from the other; and in explanation of this, I learned from my informant that the blue star of this double system is charged with negative electricity to an extent of which we in the Solar System have no conception, while the golden star is similarly charged with positive. So enormous is the surface-density of each of these charges, that the electrical forces in this region almost completely swamp the ordinary Newtonian force of attraction—which, consequently, is treated in their mathematical calculations as a small disturbing force.

Now the planets in this system are charged on the

same high scale with electricity of the kind opposite to that of their own Sun, and are therefore attracted by this luminary and repelled by the other.

All this was explained to me by the Cygnian Being, who said that the name of his planet was *Minus One* —indicating that it was the first of those which oscillate round the red star—all the others being named in the same accurate manner; for example, *Plus Three* is the third, in order of distance, of those oscillating round the blue star. I had no difficulty in understanding the general character of the motions of these worlds, although, owing to the perpetual changes of relative positions and the consequent variations of the electrical distributions on the surfaces of the moving bodies, it seemed to me that anything approaching accurate calculation of their motions must be extremely difficult.

This surmise, indeed, he confirmed to some extent;

but he assured me that their mathematicians had now become so skilful that the difficulties which were so formidable in early times had almost completely disappeared.

Comets, he added, were the only bodies whose motions really taxed their skill; for these visitors were so numerous and so different from one another in electrical constitution, that there was no one type of motion which would hold for any considerable number of them.

I ventured to remark that in such highly electrified worlds accidents to life ought to be very frequent.

"We do not find it so," said he, "and in fact our high state of electrification is very useful for many purposes. For example, it enables us to get rid of our criminals in a satisfactory manner. You must know that the surface of our globe is an extremely good conductor of electricity, and we take care that

our clothing—and especially that of our feet—shall be of the same nature; in fact, we never allow ourselves for a moment to be insulated from the ground, unless special precautions are taken to prevent violent alterations of electrical state.

"Now, when a criminal is condemned to death, he is simply sent to a House of Insulation for a period, generally very short, at the end of which he is compelled to come out and step to the ground. The moment he touches it, he is killed, the difference of Potential which has in the interval been established between him and the ground being sufficient for the purpose.

"Our high state of electrification enables us also to measure fitness for marriage to a nicety. For, the intending couple, having signified their desire for marriage to the local authority, are removed each to a House of Insulation in close proximity to each

other, where they assume insulating clothes of the best description. In the meantime their friends, the legal authorities, and the priest assemble in front of the Houses, and after an assigned interval, the lovers issue forth and bare their heads before the priest who holds in his hand the Sacred Discharging Tongs. One knob of the Tongs he places in contact with the head of either lover, while he gradually causes the second knob to approach the head of the other. If a spark passes at a distance greater than the one-twenty-fifth of an inch, the marriage is absolutely forbidden, on the ground that such similarity of outward conditions as that which they experienced in the adjoining Houses of Insulation could never have allowed so great a difference of Potential to develop between them, were not the dispositions of the couple radically incompatible with each other."

Several other curious customs, of a like scientific nature, he related to me, wherewith I should perhaps weary the reader, even if he could understand all the variety of subtle means which must be at the disposal of highly electrified and intelligent beings.

One thing I must not, however, omit, inasmuch as it illustrates the extent to which diabolical crime exists in certain portions of the Universe.

"We are greatly troubled," said he, "with a class of criminals who commit murder by a shake of the hand or a mere touch of the finger. They have very strong constitutions, and are easily able to stand shocks which suffice to kill our average inhabitants. A criminal of this class, when he determines to destroy some one obnoxious to him, fixes a thin layer of insulating substance on the soles of his boots, and thus after some time assumes a Potential appreciably different from that of the ground. In this state he

seeks the victim, and in a friendly way kills him, either by a shake of the hand or by a gentle touch of the finger, the resulting shock producing little effect on the murderer himself. These criminals, when detected, are pursued and killed by the police, who are all armed with stout insulating batons."

"On my world," said I, "we have miscreants of the same kind, but their methods are clumsy. They rely on the energy of Chemical Affinity, and select compounds containing it in greatest quantity. The worst of the matter with us is that these scoundrels are countenanced by individuals whose special duty it is to suppress crime, and are protected even by governments which claim for themselves a high place in civilisation."

"Such crimes," said he, "have often almost driven me to the conclusion that it will be necessary to dissolve Society, if not to obliterate the race alto-

gether; and indeed, in your state of affairs, I can see no other alternative."

I thanked him for the valuable information which he had given me, and told him that I was now bound for other regions; whereupon he offered me his hand, which, in the flurry of the moment, I declined—unreasonably influenced, no doubt, by considerations of difference of Potential. I gave him, however, a polite bow, which he returned with an equally graceful motion.

The wonderful variations of the star Algol, which are still such an enigma to our astronomers, determined me to visit his neighbourhood, and, if possible, to solve the mystery. This Star, as seen from the Earth, varies in brightness with enormous rapidity. For about two and a half days it shines as a star of the second magnitude; then its brightness rapidly diminishes, being reduced in about three hours to

that of a star of the fourth magnitude, after which the brightness again increases, attaining its maximum in the same time, and retaining it for the period already mentioned.

Two conjectures have been made to account for variations of such extraordinary rapidity and regularity. One is that Algol is in a semi-fluid condition, in an advanced state of cooling, and carrying about on his fiery ocean huge dark masses of the nature of continents, which, when on the part of the Star facing the Earth, produce the diminished brightness observed. The other conjecture is that this loss of light is due to the interposition between us and him of a large dark body which revolves round him.

With the first explanation I never had the slightest sympathy; and I was therefore much pleased to find, on my arrival, that the second, with certain astonishing circumstances, is the true one. Indeed,

the discovery which I made in this neighbourhood had the effect of making me more cautious than ever in laying down Laws for the Universe from the generalisation of experiences collected in the region of the Solar System.

For, having ascertained the existence of the huge planet which revolves round Algol, I alighted on this world, and speedily observed that it performs its revolution in something less than three of our days. Its orbit is an extremely elongated ellipse, the perihelion of which happens at present to be almost exactly between Algol and our Sun. The dimensions of this path are not, as might be anticipated, by any means small; but, for a reason to be presently given, I was unfortunately unable to make any measurement of them.

That an orbit of such great magnitude should be described in a time so short seemed in the highest

degree perplexing; but I soon ascertained the reason to be that, although the Newtonian Law of Gravitation, according to the inverse square of distance, holds in the region of Algol, the *constant of gravitation* is vastly greater here than in the neighbourhood of the Solar System. Indeed, such a result seemed to be perfectly natural as soon as I discovered it; for, as gravitation is propagated by a medium, the strength and velocity of its propagation must depend, in any region of space, on the elastic qualities of that portion of the medium there existing.

I was now able to understand why all motions in this system are performed with such amazing rapidity; and to see why the period of diminishing brightness is so very much shorter than that of constant brilliancy. For, since the path is such an elongated ellipse, with the perihelion turned towards the Earth, the length of the part in which the planet intercepts

a portion of the Star's light is very much less than that of the remaining portion, and the high value of the gravitation constant accounts for the extremely rapid motion.

I found, moreover, the nature of the inhabitants to be as marvellously different from anything within my knowledge as the physical conditions in which they are placed, and to supply a wholly unexpected example of the transformation and conservation of the Energy of Thought. These Beings are called *Dergs;* and each, from the moment of his existence, is accompanied by another Being of very much finer constitution, called a *Stilderg.* The Stilderg is an airy Being of a phosphorescent nature, who always accompanies the Derg, the bond between them being probably of an electrical nature. In shape the former is an exact reproduction of the latter, and is the receptacle of all the past thoughts of the Derg. In fact, hardly has

the latter conceived a thought, when this thought flies from him into his Stilderg. Hence the Dergs are Beings whose existence is almost wholly confined to the Present, while the Stildergs live essentially in the Past. The latter do not possess the power of speech, and are wholly devoid of any trace of ability to conceive a single idea in advance of any past or present event. Their countenances are living pictures of the whole past lives of the Dergs; and you may often see at a wedding ceremony, or other festive occasion, the assembled Dergs exhibiting the utmost signs of merriment, while on the countenances of the corresponding Stildergs are depicted the feelings of grief or anger. Such inauspicious signs, however, produce no effect on the company, as nobody pays any attention to the Stildergs on these occasions.

The latter, however, owing to their peculiar phosphorescent nature and to the fact that they live by

the simple means of inhalation, possess the power of existing as isolated Beings long after death has removed their corresponding Dergs, and I met several of them floating about aimlessly and expressing various phases of thought on their countenances.

The star Algol himself is called by the inhabitants *Landergon*, while their own world is called *Mondergon*. The dimensions of the latter I was most anxious to ascertain; but the reason of my inability to make any geodetic measurements will be more fully appreciated when I have related a few more facts concerning its inhabitants.

From the exceedingly fleeting nature of the thoughts of the Dergs, it will be easily understood that purposes once conceived seldom culminated in in any completed work, inasmuch as the carrying out of purpose requires a continuous thread of connection between a present thought and those that preceded

it; and the preceding thoughts could seldom be gathered at the right moment from the faces of the Stildergs.

Hence, on visiting several of their workshops, I found machines in all states of incompleteness. For example, I found the body, the bottom, and the spout of a kettle lying close to one another in a deserted shop, while a lone Stilderg stood helplessly looking at them, the departed mechanic having lost the idea of putting them together. For this reason, also, I found it impossible to obtain any instrument necessary for measuring the size of the planet. In the workshops were to be found many non-concordant tubes, object-glasses, and eye-pieces of telescopes, but no completed instrument of any kind, so that any attempt at geodetic operations was out of the question; and I could get no information on the subject from the Dergs, because these measurements require such

continuous processes of thought and purpose as they are wholly incapable of exerting. Having thus satisfied myself on the point for which this journey was undertaken—viz. the cause of the very rapid variations in the brightness of Algol, I left this region, and presently fell in with the Aldebaran Spirit, of whom I shall here say nothing more, as our conversation is related at length in the following poem.

I have to say, in conclusion, that in none of the Stellar Systems which I visited could I find any confirmation of my belief in the Principle of the Dissipation of Energy, either in the opinions of the various Beings with whom I conversed, or in the facts which they related to me as within the domain of their own knowledge. These facts would of themselves suffice to convince me that the transformation of all forms of Energy into Heat is not final; and that, although Men with their limited field of experi-

ence and scanty modes of perception are unable to trace the process, the principle which really holds throughout the Universe is that of the *Circulation*, or, as the Al Fardian expressed it, the *Resurrection*, of Energy; but the authoritative Revelation of the Aldebaran Spirit places the matter beyond doubt. What has gone before has shown me the danger of making a sweeping generalisation for this vast Universe from the scanty facts which we are able to gather in the Solar System. The conclusion is of too tremendous a magnitude to be at all justified by the existing state of our knowledge, or any that we are ever likely to attain.

Fancy Archimedes, or even Kepler, deducing the future state of the Universe from the Science of his time! What splendid "laws" might not the latter have deduced from systems of inscribed and circumscribed cubes, spheres, and other regular figures as

representing stellar and planetary orbits, if his observations had stopped a little short! Even assuming that a system of two bodies, each of the mass and magnitude of our Sun, fell together from a practically infinite distance (the distance of Sirius will much more than suffice), and that it contained within itself no other form of Static Energy than that which we recognise Newtonian gravitation in these regions to possess, the heat developed would (unless I am mistaken in the calculation) raise the temperature of the combined mass by about $\frac{55755000}{c}$ centigrade degrees, where c is the mean specific heat of the substance of the Sun. And even if we take for c so high a value as $\frac{1}{10}$ (a little less than that of iron), we have the appalling rise of 557,550,000 centigrade degrees.

Perhaps Mr. Crookes may be able to say whether this temperature would suffice to send the mass back into Protyle, and to take portions of it into the

neighbourhood of other Stars whose attractions would destroy its identity as an individual system.

Although I cannot profess to understand all that was spoken by the Aldebaran Spirit, I gather from his Revelation that the true magnificence of the Universe will never be appreciated by Men so long as they attempt to make their own capacities and their own knowledge the measure of all things. We never know the moment when some mine of strange facts may be sprung upon us—not always destroying previous theories and "laws," it is true, but so largely modifying them that we become ashamed of our previous ignorance. What a potent discovery, for example, was that of Faraday—that the strength of the attraction or repulsion between two electrified bodies depends on the nature of the medium in which they are placed! And if it has not, as yet, done more than conduct us to the threshold of a new world of ideas concerning

the wonderful mechanism by which Nature propagates her forces through space, it has at least given us the splendid speculations of Clerk Maxwell. There is nothing so hurtful to the interests of that True Religion which excited in the breast of Kant his profound admiration for the "Starry Heavens above" as the wretched *πάντων μέτρον* theory of Protagoras which has taken such firm root in the human mind.

Man must abandon his false conceit that he was made scarcely lower than the Angels. He will never take even the first step towards the appreciation of the true grandeur of the Universe until he recognises his own very humble position among the countless multitude of intelligent Beings that inhabit it—until he absorbs into the recesses of his thought the sublime words of the greatest Poet of our age :—

> "Think you this mould of hopes and fears
> Could find no statelier than his peers
> In yonder hundred million spheres?"

THE

REVELATION FROM ALDEBARAN

BEYOND the Spheres, alone in silent Space,
Earth far behind, I wandered in a dream
Thro' the cold Ether, till I reached a place
Darker than night, lit only by the gleam

Of distant Stars—old shapes with figures new—
A far faint light that never flickers here—
Sirius and Sol confounded to the view,
With other myriad specks upon the Sphere.

The Southern Cross a spot! Orion proud,
With flaming belt, a single star—and now
Where is Andromeda's continuous cloud?
What part of Space conceals the mighty Plough?

No sound that could awake a human ear—
Nought but those little waves that light the eye—
Nor come, for countless ages, Planets here—
Nought but some shrunken Comet crawling by.

Myself a tenuous Being, with the shape
(The lawless fancies of my dream to crown!)
In which I moved or ere I made escape
From gravitation's chain which held me down.

And now, while gliding on in free career,
A vision of unwonted things began;
For lo! there came a Being from a sphere
Which circles round the huge Aldebaran.

He, too, with frame and figure did appear,
Graceful—but strange beyond all human ken—
So shapely, that my heart conceived not fear
Such as strange forms inspire in mortal men.

Tho' well I know that converse in such place
With human tongue belies the waking thought,
The Dream which leaps the dark ravines of Space
Sets sober facts of Nature all at nought.

Him with unhindered voice I then addressed:
"Mysterious Form, unknown to mortal eyes!
Whence dost thou come—from regions curst or blest?
Hast thou a resting-place in all the skies?"

"Mortal," he said, "full well thy shape I know—
For thou art of that transient Form called Man—
Thou scarce couldst comprehend how long ago
The series ended near Aldebaran."

"Thy words increase the mystery," I said;
"My mind to knowledge opens wide the gate;
But this is truth divine—when I am dead,
I straight regain my once immortal state.

"For, counting back thro' some few thousand rounds
Of my fair Earth about her central Sun,
My father, made immortal, broke the bounds,
And by his act his race was half undone."

"Thy view is blind," he said, "with all the crimes,
Or aught that Man can do, or leave undone,
The atoms must be scattered million times
From Form to Form, or ere the race is run.

"This Form of mine to thee is not revealed,
Except thro' those few channels of thy sense—
My subtle powers from thee are all concealed—
Thou art so far removed from permanence!

"And learn this truth—whate'er thy fancies hold—
The misty legacies of previous states!—
No Being ever yet of Human mould
Held what thy wayward fancy contemplates."

"Then whence my wayward fancies?" I replied;
"To every thought—the wildest—of my brain
Is there not some reality allied?—
Else all-explaining Science were in vain."

"Nay, curb thy zeal," he said, "thy race is set
Far down among the Forms of dawning youth.
With all the search of ages—canst thou yet
Resolve the Roman's question, What is Truth?

"No—and thy Science therefore is at fault,
And all thy Knowledge is in hapless case—
As well attempt to raise the splendid vault,
When thou canst nowhere lay the solid base!

"The Axioms of thy vaunted Science try;
Space, Time, and Matter—all thy Laws of Thought—
To these thy Metaphysic tests apply,
And see the chaos to which all are brought!

"Thy moral nature, too, exalts thee high!
Thy 'brutes' no future have, within thy creeds.
They, like thyself, come, struggle, eat, and die—
They were but made to satisfy thy needs!

"Unnumbered myriads fill the living air,
And countless others hold the land and sea;
On that small patch of Earth which is thy share,
The floods and earthquakes make a sport of thee!

"That world was made for thee, without a doubt!—
Fitly prepared, like some ancestral hall—
Then Universal Heaven with joy did shout,
When Nature bowed thee in—the lord of all!

"A gardener's fault, which, in the creeds of men,
Brought death into the world, and all their woe!
Was there no rage of tooth and claw till then,
No pain, no death?—the fossiled rocks will show!

"Nay, when thy moral nature takes its flight,
A perfect Scheme of Ethics for its goal,
No single maxim can its power indite
Which does not by confliction mar the whole!

"The web thou canst not weave—for Bad and Good,
Virtue and Vice, thy moral warp and woof,
Tossed to and fro upon the angry flood,
From all thy grasping efforts hold aloof.

"Yea, to thyself so dismal seems thy case,
Thy life an endless round of pain and vice,
That God must die to save thy wretched race—
Think'st thou thy race were worth the sacrifice?

"Thy frame is all imperfect—hence the cause
Of hopes and fears and fancies in thy mind,
The clash of sense with sense, of laws with laws—
The atoms must more fitly be combined!

"Unstable Forms, by slow successive change—
Slow beyond all thy thought—must disappear;
The atoms must arrange and rearrange
Through million cycles and from sphere to sphere."

He ceased. Bereft of hope, the stream of life,
That erst within my veins flowed hot, was checked.
The Soul's high hopes and all the frenzied strife,
The promise of a larger Knowledge—wrecked!

To fight the fight of Virtue, to be brought,
Covered with scars and thrusts, to such a doom!
Yet hope had not completely fled—I thought
E'en yet a ray came glimmering thro' the gloom.

I said: "My race may surely hold it truth
That something will the wreck of Death survive;
For, on my Planet, ever since its youth,
Does Nature onward to Perfection strive.

"Is every forward step she takes in vain,
And all her motions blind, without a goal?
All Change is gradual in her domain—
Nought discontinuous throughout the whole!

"Can they, then, who at last with dying breath
Fresh secrets of the Universe disclose—
Can they be wholly blotted out by Death?—
Checked for a time, the current fiercer flows!

"The Mind within, which, breaking Sense's trace,
Reveals what Nature from our view would keep,
And penetrates the dark recess of Space,
Drags out the hidden Planet from the deep.

"For, chained within our all too narrow bounds,
When Newton found the Law, we grasped at hope—
And held—when Science conquered larger grounds,
What time the German found the Spectroscope.

"When in some distant Orb of glowing mass,
Rent by the strife, convulsive fires prevail,
At night the zealous Watchman with the glass,
Or on the Spectral Riband, reads the tale.

"Yea, and a world of greater marvels still,
In Atom, Cell, and Molecule unfolds,
When Reason, subtle chemist of the Will,
Disintegrates the whole, the whole remoulds.

"I know that, ages hence, the works of Men
Will stand amid the gloom like funeral pyres—
All Death!—until the darkened Sun again,
By some huge conflict, shall relight his fires.

"But Knowledge were in vain, and Nature blind,
If Earth's decease should all the drama close—
If, after all the strife, the gains of Mind
Will vanish from the field like melted snows!"

"Yea, all indeed like melted snows will pass—
For see, two molecules adjacent lie—
One sinks, to rise within the blade of grass—
The other joins the wandering cloud on high.

"Companions once, but in the ceaseless round,
The wreck of Forms, thy Planet's hungry strife,
Will they companions e'er again be found,
Within some new development of life?

"The atoms which within thy frame unite,
Immortal each, through countless Forms have been—
This in a Saurian of the Oolite,
That in a Mammoth of the Pliocene!

"Now grouped afresh, and subt'ly intertwined,
More varied motions in thy frame cohere,
More ready throb within does Nature find
Whene'er her forces at the gates appear.

"But finer pulses stir the vast expanse
Than thy poor Sensibility can feel.
Thy Knowledge fails, and then to Fate or Chance,
The Gods of Ignorance, is thy appeal.

"Thy Reason—what is this?—thy proudest boast,
Which leaps the bounds of Sense and scales the height!
A flash that lures thee to the rock-bound coast
And wrecks thy barque against the Infinite!

"What splendid phantoms does thy fancy build—
Nature subdued and prostrate at thy feet!
Yea, thy environment itself is filled
With subtle voices mocking thy conceit.

"Wouldst thou construct the solid base with care,
Axiom and Postulate full well defined?
The Symbol-Science leads thou knowest not where,
And drags thee through her dark dominion blind.

"Thy Thought within itself is all at strife,
Because, through thee though myriad pulses ran,
They failed to wake thy atom-groups to life—
Thou hast but scant mosaic of the plan!

"When Death shall loose the bonds once more and drive,
By countless paths, the atoms into space,
'Tis true thy gains of Knowledge will survive,
And pass as sacred heirlooms to thy race.

"But Conscious Self is not among the grains
Which Nature gathers from the beaten sheaf—
Should she, with boundless treasure, be at pains
To store the memories of human grief?"

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Now fainter still I felt the pulse of Hope,
And would have fled for peace—I know not where—
But that I seemed as hurried down the slope
That ends in the abyss of blank Despair.

For each successive step that led to God,
And gave the Soul fresh glimpses of the light,
Crumbled to dust—and all the path I trod,
And saw before me, vanished out of sight.

The shuttlecock of Fate! Can Nature find
Nowhere for me a rest in Space or Time?
All vain, if vain the triumphs of the Mind—
The steps which Reason laid for Hope to climb!

And worse than vain, if Malice reigns supreme,
And mocks at Hope, and Evil Purpose runs—
Then let the hapless race of men blaspheme
The Power that guides Arcturus with his sons!

Once more I spake: "Dark tidings Science brings—
That for this Universe the death-knell tolled,
While yet the Fiery Cloud threw off its Rings
And from gigantic wounds its Planets rolled.

"With ever quickening spin, the fluid globe
Rushed through the Ether, while, beyond recall,
Streamed forth its life, and then the sombre robe,
Its dark cocoon, shut out the light of all.

"Then went the fiat forth, 'Let there be Light!'—
The long-enwrapping curtain was withdrawn;
The Sun and Stars appeared, Day followed Night,
And Mighty Purpose caused new life to dawn.

"New life was that, from some transcendent sphere—
No motion which the atom-systems keep—
That life, with Love and Hate, with Hope and Fear,
The Mighty Spirit breathed upon the deep.

"The ages run, and nearer comes the doom,
When Suns have crashed with Suns, and restless Life
Must flee the placid universal gloom—
The father of all living things is Strife.

"Behold thy mighty star within the head
At which Orion aims his felling blow—
His energy half spent, the dusky red
Is but a remnant of his ancient glow.

"His fires will cease—for that vast Eon Sea,
Celestial Vampire, drains the glowing life
From Sun and Sun, and each will lifeless be
Till one more mighty rises from their strife.

"Till one at last from all the countless Stars—
The cold sad sum of all, of all the tomb—
The relic of a myriad myriad wars,
Is left—thenceforth eternal in the gloom!

"No word that lips can utter could express—
No thought that Mind from out its depths can call—
The horror of such final Nothingness,
The deep dark Falsehood lurking under all!

"A brighter higher Universe unseen,
But dimly felt by touchings of the Soul,
From whose fair fields some flowers the poets glean,
Reveals itself behind the calcined scroll.

"No vain Mirage does ardent Faith descry,
And not in vain has Mind its triumphs wrought,
Nor victor in the fight, with closing eye,
Grasped at the better life for which he fought!"

The word went forth—and straight I felt the glow
Which Truth and Faith had kindled in the soul—
Two lights to pierce the wilderness of woe,
The lamps of God above the distant goal.

But he replied, as if with fell design
That I should curse the Mighty Power that rules,
"Vain Mortal Form, this feeble glimpse of thine
Is but the groping of thy fickle schools.

"To draw the picture dark, that men may weep
O'er Purpose lost in Nature's cindered frame,
And then to build above the lifeless heap
A Something which thou canst but vaguely name,

"Wherein the Soul Elysian joys will find—
The joys of Sense or Song, as fancies go—
While, from the height serene, the selfish Mind
Surveys the ruined Universe below!—

"Small matter this? Were this indeed the end,
Would Purpose work through all from Pole to Pole?
Nay, couldst thou—even thou thyself—defend
The Mighty Bungler who contrived the whole?

"With light denied, thou hast not read aright,
Nor canst thou see beyond thy narrow bound
The Energy of Nature in its flight,
Or trace the paths by which it circles round.

"From five dim senses wilt thou make the Law,
And, where thy view is checked, to all cry 'halt'—
That, aping blinded Samson, thou may'st draw
The living worlds to ruin from the vault?

"And yet 'tis truth that each successive age
Brings forth its crowd of theories and rules—
What yesterday was 'Law' to-day the sage
Holds up for scorn or laughter in the schools.

"So now, that Nature's life will 'fritter down'
To 'useless Heat' throughout the whole expanse—
That Death shall reign through all from base to crown—
Is but thy last grand phase of Ignorance.

"Nay, set thy blinding confidence aside,
And mark the steps by which thy Science grew—
How much has purpose of the whole descried?
How much to all unconscious search is due?

"One day the shepherds found the wondrous stone
Whose mystic touch gave thee the guiding bar
Which serves the mariner on waters lone,
When clouds unkind obscure the beacon star.

"Too long unknown the potent ore had lain,
Unfelt, its power on thy dull senses fell—
But yonder where Antares leads his train,
His higher children feel the magnet spell.

"The Lightning's essence found perception dim,
And vainly made appeal to senses slow,
Until the slaughtered frog with twitching limb
Along the wire revealed the subtle flow.

"And still the poor domains within thy ken
More wondrous energies in secret hold,
The which though Time shall yet disclose to men,
They seize but some few stragglers from the fold.

"For, where the great Arcturus rules his skies,
And Nature smiles with more benignant ray,
To finer conscious power his children rise,
And feel the thrill when feebler currents play.

"And there they weave the more responsive thread
Which guides through space the secret pulse of Thought—
The image of the distant form is led,
And friends far sundered face to face are brought.

"The Eon vast conveys by subtle stress
The all-pervading force which Newton found—
Whose secret he of Cambridge sought to guess—
An iron chain which binds thee to the ground!

"But know—the freer children of Altair
Reverse the wheels at will, undo the chain,
In fleecy shapes ascend the tenuous air,
And glide from world to world in his domain.

"Ethereal Forms round Lyra's sparkling gem
Wait, while before the final gates they stand,
The last short sleep in Time—last hour for them
That Time shall measure with his trickling sand.

"Canst *thou*, with vision coarse, the Cloud descry,
Slow gathered from the Ether in the way
Which Mighty Sirius fires across the sky—
The glowing Nebula another day?

"With clash of summoned Atoms it will burn,
Throw ring on ring, send forth the living spheres,
And then to Ether, whence it came, return—
Shattered in war disastrous with its peers.

"Disastrous? Nay, the giant crash of Suns
No more distress involves in Nature's frame
Than does the pigmy strain that swiftly runs,
Light-bearing from the distant central flame.

"An endless round of such stupendous fate
Too fearful to thy timid heart appears—
Nay, learn with placid mind to contemplate
This never ceasing music of the Spheres!"

He ceased—but while he told of brighter things
In Vega's worlds and round the white Altair,
Hope, that erstwhile had fled on cruel wings,
Rose faint above the figure of Despair;

And tearful Pity stemmed the flood of woe,
Divine Compassion speaking in her eyes—
As when of old she raised her painted bow,
And hung her sacred promise in the Skies.

I said: "Mysterious Spirit, not so dark
The Future seems as when, with human fear
That Death's dark flood would wholly wreck the barque,
I sought to prove some immaterial Sphere.

"For, if the myriad worlds in yonder sky
Hold Spirits like thyself, who oft have passed
From high to higher still—strong hope have I
Of reaching Immortality at last.

"But still the purpose of my life is dim—
For why more excellent is Virtue's way?
Which—him who calls to Revelry, or him
Who calls to Knowledge—shall my soul obey?

"'Twere vain to choose, for both are equal made,
If no Reward or Punishment attend.
On Borgia's life, or that by Christ displayed,
Does nothing in the Future, then, depend?"

"Nay, everything depends. But Nature's plan
So far transcends that travesty of thine,
Invented by the self-conceit of Man,
That Truth thou wouldst not, if thou couldst, divine.

"If, gifted with the gift of mystic tongues,
I spelled thee Nature's volume word by word,
And showed the ladder rising, rungs on rungs,
No signal couldst thou show of one that heard.

"Yet, in the frames of all imperfect things
The problem towards solution slowly tends—
Each step in harmony with Nature brings
Fitness for higher means to higher ends.

"The forms of Energy—go count the sand
Where some vast Ocean heaves its ceaseless moan,
And from the number faintly understand
How shapes the Indestructible Unknown!

"The Secret Essence which potential holds
All forms of Energy—the Base of life—
Contained within the grosser atom moulds,
Attains to Actuality by strife.

"By strife—harmonious working of the frame,
As Nature bids, the slow-transforming power
Attains the living Actual—the same
In me and thee as in the silent flower.

"Responsive when the outward pulse is brought,
The Atom groups the finer Base impress—
And straight the Energy appears as thought,
And fills the labyrinths of Consciousness.

"But nought of Consciousness itself remains—
A changing function of the changing frame—
Thinkst thou the painted butterfly retains
The knowledge of the worm from which he came?

"Let Consciousness depart!—and well for thee
If its Perennial Base should leap the vast—
The atoms wholly changed, thou shouldst not see
The misty glimmers of a lower Past.

"Forward—and backward, too, the motion goes—
For, backward moves the mind whose crooked Will
Rejects the higher way that Nature shows,
And must some meaner habitation fill.

"The way is long—some glimpses in advance,
By perfect action, faintly come in view;
And veils that lift from passing trance to trance
Reveal fresh knowledge of The One, The True.

"Enlarge thy vision—know that Nature's plan
Is vaster, grander, than thy systems dream—
Seen through the narrow self-conceit of Man,
How dwarfed, how libelled is the Mighty Scheme!

"Far down among the Forms—but not denied
The power by slow successive steps to rise;
While brooking no superiors, in thy pride,
Thou hast a myriad such in yonder skies!

"Reward—the unrelenting Laws unfold
Advance to finer Forms from sphere to sphere,
For fitting work; and Punishment—behold
Regression ever hovering in the rear!

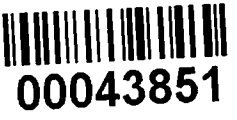
"To search with finer power from life to life
The caves which Nature's treasure darkly keep—
To feel the matchless bliss of conquering strife—
To wrest some hidden secret from the deep—

"To find how Castor rules his tottering globes—
To trace within the flower the wondrous scheme—
To pierce the Past itself with searching probes—
Does this suffice for high Ambition's dream?

"To tune the chords to Misery's appeal,
Thine eye the gem that shines through Pity's tear,
The grief that rends another heart to feel—
Sweet harmony is this in Nature's ear.

"The blinding veil of Falsehood cast aside,
And learn the Truth with full content to know;
Welcome the Change what time the ebbing tide
Shall take thee to another region. Go!"

THE END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